MULTIMEDIA UNIVERSITY

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 2, 2019/2020

BAP2044 – ADVANCED BUSINESS APPLICATION PROGRAMMING

(All sections / Groups)

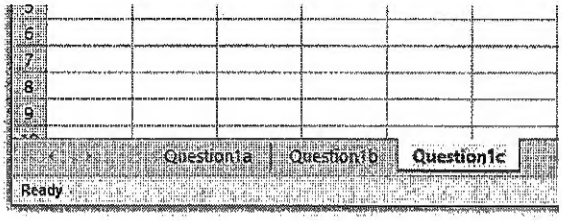
03 MAR 2020
09.00 a.m. - 11.00 a.m.
(2 Hours)

INSTRUCTIONS TO STUDENTS

1. This exam is a computer-based examination.
2. Please answer the question by using the **Microsoft Excel Version Year 2016 and Spyder IDE,** which installed into the computer.
3. All the answer templates are available in the provided USB. Copy the "dataset" folder into the computer's desktop. Rename the dataset folder with student ID. Ensure all answer is in the folder named with student ID.
4. There are three questions in this exam. Answer **ALL** questions.
5. A list of Python Reference is provided in the Appendix.
6. Rename the folder named with your student ID before examination Submission.

Question 1

Use Microsoft Excel 2016 to answer the question. The folder of Question01 consists of the dataset for question 1, namely "Question01.xlsx". Answer the **question a** to **question c**. Each question should answer in a sheet separately. Do not answer more than one question in a sheet. Rename the **sheet name** with the question number, such as Question1a, Question1b and Question1c, as the figure below.



The dataset presents the Airbnb dataset in the city of Singapore. Read the "DataSecription" sheet for more detail explanation of the data in each column.

a.) Scrub the dataset as follows,
   i. make sure the dataset is in the appropriate **data type.**
   ii. delete the row of the data if the dataset is not complete.
   iii. add in a new column and call as availability_month. This column is calculated by divide with availability_365 with 30 and round it up as whole (exact) number.
   iv. According to the date of last review, define what day is that? The variable of the day should be display in the alphabet representation. For instance, "MONDAY". Name this column as "day_last_reiew".
   v. Delete the row of the data if the length of the host_name is 1.
   vi. make sure the dataset is good to go.

(20 Marks)

b.) Display the top 50% most neighbourhood Airbnb room to be rent in each day of the last review (in Monday, Tuesday, Wednesday or etc). Report it in a proper diagram.

(10 Marks)

c.) Display the most expensive Airbnb room to be rent in neighbourhood according to neighbourhood group. Report it with a proper diagram presentation

(10 Marks)

Continued...

Question 2

Use the spyder IDE to answer this question. Please navigate the working directory into the USB driver location and name the folder as Question02.

Write a Python program to get the input data from a user. The information needs to be key in by the user is name, age, place of birth, state of birth and gender. The condition for each of the input is listed as follows:

Name	The name which key in by the user must be in capital letter. Special character is not accepted.
Age	It is expected the range of the age key in by the user is between 18-year olds to 60-year olds.
Place of birth	Only capital character can be inserted in this variable. The length of the variable should less than 25 characters.
State of birth	The state of birth should consist only consists the state in peninsular of Malaysia.
Gender	The variable should be male, female and unknown.

The information will save in the text file if all the information key in by the user is correct.

**Hints: import the re package to write Python programming. A regular expression (or RE) specifies a set of strings that matches it; the functions in this module let you check if a particular string matches a given regular expression (or if a given regular expression matches a particular string, which comes down to the same thing). The sample of the re package usage displays as follows:

```
"""
This is a templete on how to use re package. Please key in the sample
passpord of "12345" and "abcd123" to understand further about
the function of re.search in re package.
"""
import re

password = input("Key in a password please")

if re.search("[a-z]",password):
    print("The password consists of small capital letter of alphabet")
else:
    print("Bad Password")
```

(20 Marks)

Continued...

Question 3

Use the spyder IDE to answer this question. Please navigate the working directory into the USB driver location and name the folder as Question03.

Analyse the given dataset which located in the folder namely, "Question3RawData.csv".

a.) Load the data into the spyder ide. (1 Marks)

b.) Standardise the value of RESIDENTIALUNITS, COMMERCIALUNITS, TOTALUNITS and SALEPRICE.

**How to standardize a variable • Subtract the mean from the value you want to convert. • Divide the result by the standard deviation

(16 Marks)

c.) Calculate the correlation for between TOTALUNITS and SALEPRICE by using the standardise value.

(2 Marks)

d.) Save the data into and new file and rename it as "Q3afterexam.csv". (1 Marks)

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